

TRANSPARENT INTER-METAL DIELECTRIC STACK  
FOR CMOS IMAGE SENSORS

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ABSTRACT

A transparent inter-metal dielectric utilized in a CMOS image sensor includes a flowlayer sandwiched between a base  $\text{SiO}_2$  layer and a cap  $\text{SiO}_2$  layer. The flowlayer is formed by reacting  $\text{SiH}_4$  and  $\text{H}_2\text{O}_2$  using a shortened  $\text{H}_2\text{O}_2$  stabilization time, using a reduced deposition pressure, and while maintaining the reaction chamber platen at a target value of approximately  $1^\circ\text{C}$ .